Abstract

A New Study on Western Chou Bronzes

by

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The method of study on ancient Chinese ritual bronzes has been divided in two; one is the epigraphical method, and the other is the archaeological method. The former deciphers the meaning of their inscriptions, and bronzes of the Western Chou period, with their long inscriptions, are most useful for dating of the bronzes. The latter seeks for types and designs, and needs the definite materials which give informations on the conditions of discovery. The real method, I think, must integrate these two methods into one.

In last ten years, a great number of ancient objects have been discovered at many sites in China. Among them, there are some bronzes of the Western Chou period. To effect the above-mentioned integration of method, we had best begin with these Western Chou bronzes, which have both long inscriptions and clear informations on the conditions of discovery.

I took several sets of bronzes for consideration. ('A set' means a group of bronzes which were found at the same site.)

I) the Early Western Chou period

1. Bronzes from Ling yüan 凌源, Liao ning 遼寧

   This group contains bronzes made in Yen 匽 and Ts'ai 蔡, two feudal states during the Chou Dynasty. The inscriptions of these bronzes will fill the vacancy of the history of the beginning of the Chou Dynasty.

2. Bronzes from Tan t'u 丹徒, Chiang su 江蘇

   One Kuei has the most important inscriptions dated at the period Cheng Wang 成王 or K'ang Wang 康王, This vessel was made by I Hou Nie 宜侯矢 who made also the famous bronzes : Ling Kuei 令簋 and Ling I 令彝, and was appointed the first feudal king of Wu 吳,

3. Bronzes from I ch'eng 儀徵, Chiang su 江蘇
4. Bronzes from T'un ch'i 屯溪, An hui 安徽
5. Bronzes from Chang hsing 長興, Ch'e chiang 浙江

   The above four groups have been found in Southern China, showing different types from those of Central China.

II) the Middle Western Chou period

6. Bronzes from P' u to ts'un 普渡村, Chang an 長安
7. Bronzes from Mei hsien 郿縣, Shen si 陝西

III) the Later Western Chou period

8. Bronzes from Lan tien 藍田, Shen si
9. Bronzes from Chi chia 齊家, Hsing p' ing 興平, Shen si

10. Bronzes from Jên chia 任家, Ch'i shan 岐山, Shen si

These three groups have the important inscriptions.

Kuei of Hsün 詢敦 from Lan tien was made by Hsün 詢, the same person that made Kuei of Shi Hsün 師詢敦, and his father made Kuei of Shi Yu 師酉敦, which seems to have some relation with Ting of Mao Kung 毛公鼎.

Ting of Yü 禹鼎 from 岐山 has the same shape and the same design with Ting of K'o 克鼎, which suggests that these two bronzes, though belonging to different owners, were originally made by the same maker.

As a conclusion of my study, I should like to make the following points.

1) Among the Western Chou bronzes, the shapes like Ting, Kuei, Li, Hsien 甗, Hu, and P'an were used throughout the whole period of the Chou Dynasty. Chüeh 爵, Chüeh 角, Chia 斝, Ku 觚, Chih 觶, Tsun 尊, Yu 卣 and Kuang 觥 were popular in the Early Western Chou period, but disappeared Later. Fu 簠, Sü 盨, Tou 豆, and Ih 匜 appeared in the Later Western Chou Period. It means that wine vessels which had been very popular in the Early peroid became few in the Later period.

2) Ting and Kuei were the most popular among ceremonial bronzes during the Chou period. We can realize the change of the types of bronzes by making the lists of Ting and Kuei.

The standards of patterns in each period are as follows:

Early period: Animal triple band, *Kuei* wên with spiral body, Short *Kuei* wên with turned head, Eye pattern with four petals, Whorl medallion, Small bird.

Middle period: Large luxurious bird, *Kuei* wên with curved body.

Later period: Deformed design of *Tao t'i'eh*, and *K'uei* wên, Scales pattern.

3) The distribution of the sites, where the Western Chou bronzes were found, shows the extent of the cultural circle of that period. We can also surmise the local characters inside this circle, and the relationship between this circle and its neighbouring cultural areas. In the western and northern borders, there was no influence from outside, but in the southern part, two different elements mixed: the Central Chou culture and the geometrical pattern pottery culture. This local type may belong to the Hu shu 湖熟 culture.

4) Results of a study by the integrated, method suggest that the beginning of coinage system in China, must be placed much earlier than Warring States period.

5) The owners of Chou bronzes changed from kings and feudal princes to lower officials, and their character changed from that of public ceremonial objects to that of private treasures.

Reference :

T. Higuchi; Newly Discovered Western Chou Bronzes,
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Studies on Binocular Rivalry

—— An Approach to Dynamics of Behavior ——

by

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The behavior was regarded here as a whole system of dynamical interactions or interrelations of various systems. If an entity could be defined through a set of converging operations each specifying a certain stimulus-response relationship, it was called a system. As an example of these systems, the binocular vision system was characterized as a subsystem of the whole, and at the same time as a system of interaction of two monocular systems.

In the present study, the phenomenon of binocular rivalry was considered as a limiting situation of such dynamical interactions, and, first of all, an approach to the determination of dynamical law of rivalry was intended.

A number of published research findings were critically reviewed and some of them were reexamined experimentally. The important points were predominancy or prevalency on the one hand and rate of alternation on the other. It was decided that the former should be the most relevant variable for the purpose of the present study. As the most adequate measure of predominancy of one figure over the other in rivalry, total time of appearance of one figure in a specified period of observation was the main concern of our experiments, and when necessary, appropriate indices of predominancy were derived.

Various aspects of dynamics of interaction in rivalry were revealed through experiments where determination of functional relations between predominancy and stimulus intensity were intended. Predominancy was found to be basically an S-shaped increasing function of log stimulus intensity. This, along with several other findings, was interpreted as showing the unique property of the binocular interaction system.

Next, it was intended to relate the binocular interaction system to another, probably higher-orded, system and to find some higher-ordered interaction between these systems. Specifically, in one series of experiments, effects of the set which were determined by preceding observation of a figure upon succeeding rivalry between that figure and another one were examined, and in the other, binocular rivalry was controled voluntarily to counteract the stimulus intensity function described above. Although the results were neither complete nor conclusive, they suggested some possibility and fruitfulness of such methodology.

Finally, adequacy of indices and measures used through these experiments was reconsidered and the question was raised on the methodology of determining

the properties of the sensory systems through various, especially verbal, indicator responses. It was insisted that psychophysical data for sensory systems should be considered as manifestation of interaction of sensory response and some kind of verbal reference system. Some preliminary attempts to analyze such interaction experimentally were reported.

On the T'ien-ch'üan Tibetan Dialect of Hsi-K'ang in the Sixteenth Century

A study of the Chinese-Tibetan Vocabulary, *Hsi-Fan-Kuan I-yu*

by

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I. Tibetan written and spoken language.
II. Sifan A and Sifan B—the written Tibetan of Amdo in the fifteenth century and the T'ien-ch'üan dialect of Hsi-k'ang in the sixteenth century.
III. Phonemic system of Sifan B.
IV. Grammatic form of Sifan B.
V. Text of the Chinese-Tibetan vocabulary.

1. The Tibetan written language has two types. One is the written language which developed along sanskrit lines after the Devanāgari script was introduced in the seventh century, and which was largely composed of a sanskritized translated vocabulary and style. In 826 this written language was reformed by King Khri-sde srong-btsan, and became what is known as Classical Tibetan, as found in the works of the Buddhist Tripiṭaka. The second type of the written language had no direct connection with sanskrit, and represented the spoken form of the Tibetan language as it existed in the ninth century. The present writer refers to this language, which has been established from Turfan, Turkestan, and Tun-huang manuscripts, as Ancient Tibetan. After the ninth century this Ancient Tibetan came under the influence of Classical Tibetan and a new written language evolved. I refer to the language as found in the non-canonical literature as Written Tibetan.

While the written language was undergoing these changes, the spoken language was also following its own development. Source materials on the old forms of spoken Tibetan are extremely scarce, and it is possible that among the numerous Tibetan literary works surviving there is not a single source for the spoken form of Tibetan later than the tenth century. There is, however, one excellent source which records the Tibetan spoken language of one particular area. This is the Chinese Tibetan vocabulary known as *Hsi-fan-kuan i-yü.* Although this work does not use Tibetan characters and transcribes spoken Tibetan in Chinese characters, it serves as an excellent text for the spoken Tibetan of the sixteenth century, despite the limitations imposed by the structural differences in the Tibetan and Chinese phonemic systems. I conclude that here is represented the Tibetan language of the T'ien-ch'üan 天全 dialect of

Hsi-k'ang 西康 province, for the reason that in its "Place Names Part" we find the name T'ien-ch'üan Liu-fan Chao tao ssŭ 天全六番招討司 listed directly after the names of Pei-ching 北京 and Nan-ching 南京. It is quite conceivable that the spoken Tibetan recorded here is still in use today. The object of the present study is an examination of this text, the *Hsi-fan-kuan i-yü.*

2. In Hsi-fan-kuan i-yü series, there are also several Tibetan-Chinese vocabularies. In a previous study I indicated (taking the texts in the Paris Asia Association and the Toyo bunko as representative) that the written Tibetan of the Amdo area was recorded there. Provisionally this has been referred to as Sifan language A and the above-mentioned dialect of the T'ien-ch'üan area as Sifan language B. Sifan language A is recorded in a vocabulary used as reference in translating letters sent from Tibet by a member of the Ssŭ-i-kuan 四夷館. The work which records Sifan language B is a pocket Tibetan glossay used for reference by an employee of the Hui-T'ung kuan 會同館, acting as interpreter for a Tibetan envoy. Thus the latter is an excellent source for information on the spoken form of the Tibetan of the time. For example, while "sea" is transcribed 兒甲木錯 rgya-mtsho in Sifan A, in Sifan B it is written as ɖen-tsho ; while "border" is 薩木塔 sa-mtha in Sifan A, in Sifan B it is 三塔 santha. In the former, the writer is aware that "sea" is formed by a combination of rgya and mtsho and "border" by a combination of sa and mtha. The latter work, however, differs in that represents a record of the language as actually heard by the interpreter. Not a few examples similar to the above can be detected.

3. In order to infer exactly what sort of phonetic form the Chinese characters which transcribed Sifan B were intended to represent, I have found that it is essential to refer to the languages which are most closely related to Sifan B, such as Written Tibetan and forms of modern Tibetan dialects. "Rabbit", for example, is transcribed as "里公", and judging from the Chinese phonetic form, would be inferred to be li-kung. In actuality, however, the form ri-gong can be inferred because of the presence of ri-gong in Written Tibetan, of ri-kong in the Lhasa dialect, of ɹə^{3}-goŋ^{3} in Chamdo, and of ri-ɣoŋ in Amdo. In each instance, both in Written Tibetan and in modern dialects, the initial is r- and not l- ; the vowel is -oŋ and not -uŋ. In the Chinese of the such a distinction could not be made. Thus the word form meaning "torrent" in Sifan B and the word meaning "ditch", also in Sifan B, are both transcribed in Chinese by "瀧" luŋ. In actuality, the former may be presumed to have had the form roŋ and the latter the form luŋ. I have transliterated the Chinese phonetic form used here on the basis of the system devised by Hsü Hsiao 除孝 of the Ming dynasty in his *Ssŭ-ma Wên-kung Têng yün t'u ching* 司馬温公等韻図経. But where it was impossible to make distinctions on the basis of the Chinese system of the time, for example the existence of an initial velar nasal, the distinction between r-

and 1-, and the opposition of initial voiced unaspirated stops, I have had recourse to a different basis. An attention has been paid to such cases as the following. Since "jade", which corresponds to *shel* in Written Tibetan, is written 舍 in Sifan B, the form 「ʂe」 can be postulated. However, 博世 「po ʂi」 in Sifan B corresponds to the written form *spos shel*, "amber". This is an example in which in the spoken language the same morpheme, in a different environment, takes a different phonemic form. 「ʂe」 and 「ʂi」 could be distinguished in contemporary Chinese, so we are led to infer that, when 「ʂe」 is the second member of a compound, it takes the form 「ʂi」. Thus 「ʂe」 and 「ʂi」 are allomorphs.

4. By an all-embracing comparison of the words collected in the text, one series of morphemes can be analyzed. Thus, "tree" 盛 can be distinguished in "pine" 湯盛, "a kind of locust" 看包盛, and "mulberry" 打児盛. Although a direct investigation of Sifan B is not possible, the following observations can be made by using the results obtained by Chinese people who had contact with the language: words in Sifan B were composed of 1) one morpheme and 2) a sequence of two or three morphemes, and we may conclude that one morpheme was, in principle, of the CVC_2 syllabic type, and posssessed one tone. In Chapter III, 1) initials, 2) sequences of vowels and finals, and 3) tonemes are discussed in that order. In 1) initials (C) the single consonants k-, kh-, g-, t-, th-, d-, p-, ph-, b-, etc. (see Japanese text, p. 123) and the consonant clusters sk-, rk-, etc. are inferred. In 2) sequences of vowels and finals (VC_2), -a#, -i#, -aŋ, -iŋ, etc. (see Japanese text, p. 138) are inferred. Although tonemes are not generally transcribed according to set principles, we can recognize toneme I (=high tone) and toneme II (=low tone), because of their partial differentiation by yin-p'ing shêng and chü shêng and by the contrast of shang shêng and chü shêng.

In order to determine roughly what correspondence each unit of Sifan B has to modern Tibetan dialects, various examples have been given. The dialects which were used for comparison were, in addition to Written Tibetan, Lhasa, Balti, Chamdo, and Amdo. Using Sifan B as a standard, some eighty principles of correspondence have been found.

5. Chapter IV consists of a brief description of the grammar. The items given in the text under discussion are limited to one word or a combination of two words, with no longer sequences. For all these limitations, however, an outline of the grammatical form of Sifan B is discernible.

6. The semantic field covered by this text is divided into eighteen parts, containing a total of 749 items. The Sifan B word form has been reconstructed for each item, and an English translation has been provided for each Chinese word. In addition, in the right-hand column, the Tibetan written form corresponding to Sifan B has been appended.